

University of Groningen

Gust and disgust or the causes of alliesthesia

Thomas, Gethin

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:

1976

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Thomas, G. (1976). Gust and disgust or the causes of alliesthesia: Motivational changes upon exposure to food stimuli in *Gasterosteus aculeatus* (L.). VRB Offsetdrukkerij bv Groningen.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

SUMMARY

The central problem examined in this study is to determine whether the prediction of subsequent feeding behaviour can be improved by taking into consideration not only the acceptance but also the rejection of palatable food items. Prey rejection is one potential measure of the state changes occurring during the course of feeding but to date this has been disregarded.

In chapter 2 the influences of discovery of a food object upon searching behaviour in the three-spined stickleback were investigated by comparing post-discovery search to search behaviour in the absence of such a food object. Changes in searching behaviour after acceptance concurred with previous findings in that there was a reduction in the tendency to move away from the site of eating plus an immediate increase in the intensity of searching, leading to 'area restricted searching'. After rejection, however, there was an increased tendency to move directly away from the site of the prey plus an initial decrease in intensity of search, leading to what I have called 'area avoided searching'. Some inferences are drawn regarding the possible function of this to the predator.

In chapter 3 variation in encounter outcome and in area restriction and area avoidance subsequent to eat and reject encounters respectively was examined in relation to immediately prior behaviour and to the total previous experiential history within the daily feeding session. Neither outcome nor post-encounter behaviour were found to be totally dependent upon the current encounter. The motivational variables involved, however, could not be explained simply in terms of an increase in 'satiation' with cumulative intake over the session. It is proposed that, in addition, short term positive and negative motivational after-effects are present after eat and reject encounters respectively. The former positively influencing the probability that a subsequent prey item will be eaten and the latter negatively influencing that probability. A rough approximation of the duration of these

motivational after-effects was made.

Finally, in the closing remarks, the results are interpreted with respect to Cabanac's hypothesis of alliesthesia. It is suggested that satiety is not the only variable determining the sign and magnitude of the state effects of exposure to food but that lingering effects of sensory stimuli received in foregoing encounters with food also play a role.

SAMENVATTING

Het centrale probleem was de voorspelling van de mate waarin slechts het aanvaarden van voedselobjecten in overweging komt op een gelijke maat voor de mate waarin voedselopname plaatsvindt.

In hoofdstuk 1 wordt de relatie tussen voedsel-object opname en de mate waarin voedsel wordt gezocht door het dier. Het zoekgedrag bij afwezigheid van voedsel in zoekgedrag na aanwezigheid van voedsel eerder was gevonden. Het zoekgedrag toont een neiging om zich te concentreren op een specifiek gebied. De mate waarin voedselopname werd beperkt was er een directe relatie. Het gebied waar de proef dier voedsel vankelijke afname van voedselopname vermijding van een gebied werd genoemd. Er worden enkele functies van voedselopname hierin beschreven.

In hoofdstuk 2 wordt de relatie tussen voedselopname, voedselbeperking en de mate waarin voedselopname wordt verworpen-ontmoetingen. Het zoekgedrag en met de mate waarin voedselopname wordt verworpen. Noch de mate waarin voedselopname werd verworpen. De motivationele waarde van voedselopname werd eenvoudigweg aan de mate waarin voedselopname werd verworpen van de totale opname van voedsel.